TRIPLETT

WireMaster Mapper

8-Way Wire & Cable Mapping Kit

Instruction Manual

TRIPLETT

84-876
3/09

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1. FEATURES

- 8-Way Mapper
- 8 BNC Remotes included (can connect directly to BNC cables)
- Male to Male BNC Adaptor included
- 8 F Remotes included (can connect directly to Cable TV F cables)
- Male BNC to Female F Adaptor included
- Male F to Male F Adaptor included
- 8 RJ11/RJ45 Remotes included (can connect to telephone or LAN cables)
- Male BNC to RJ11/RJ45 Adaptor inlcuded
- Female/Female RJ11and Female/Female RJ45 Coupler included
- 8 Clip Lead Remotes included (can connect to any pair of wires)
- Male BNC to Clip Lead Adaptor included

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- *Tests for Opens and Shorts*
- *Audible and Visual Continuity Test*
- *Generates Warble signal for Wire Tracing (w/ optional Hound Tracer)*
- *AC/DC Overvoltage Warning LED and Beeper*
- *120VAC Line Cross Protection and Warning*
- *Realtime test helps identify intermittents*
- *Maps lengths over 20,000 ft (RG-6/U, 7.4 Ohms per 1000ft)*
- *Identifies individual Remotes through Power Passive signal splitters*
- *Continuous Battery Test*
- *Uses common 9 volt battery (included)*
- *Power Latch Function Switch to prevent accidental turn-ons*
- *Use BNC Remotes to identify coaxial cables in CCTV Security and Surveillance systems, Broadcast TV, and Residential Video systems.*
- *Use F Remote to identify coaxial cables in Cable TV distribution systems*
- *Use RJ11/RJ45 Remotes to identify Telephone or LAN cables*
- *Use Clip Lead Remotes to identify any pair of wires such as Speaker wires, Alarm wires, Telephone or LAN wires (without connectors), coax (without connectors), electrical wires (unpowered, unconnected), doorbell wires, etc.*
- *Carrying Case with separate pocket for each type of remote*
- *One Year Warranty*

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2. INTRODUCTION

*The Triplett **WireMaster Mapper** is an 8-Way Cable Mapping Kit, with built-in Continuity beeper, and 120VAC line cross protection. The Main Unit and the Remotes allow the user to attach to a variety of different cables or outlets. Included in the 'Mapper' is a Tone Generator that allows the path of wires to be traced through walls and ceilings when used with an optional Triplett Hound Wire Tracer.*

3. WARNINGS AND CAUTIONS

- ***The WireMaster Mapper is not intended for use as a voltage detector.*** *It only detects voltage in order to perform its intended function, and to prevent accidental damage to the product. i.e. while the **WireMaster Mapper** detects the presence of 120VAC, it is not safe while doing so. The product and its connectors are not appropriately insulated.*

- *In some situations, unconnected wires can "float up" to potentially dangerous voltages and cause user injury. Treat any unknown wires as having dangerous voltage present, and take the appropriate precautions.*

- *The overvoltage detection feature does not work with a low or dead battery. Consequently, if the battery is low or dead, the **WireMaster Mapper** will not warn the user that a potentially dangerous voltage (i.e. 120VAC) is present.* ***The WireMaster Mapper is not intended for use as a voltage detector.***

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4. SPECIFICATIONS

- *Identifies 8 individual Remotes (BNC, F, RJ, and Cliplead Types, total 32 Remotes) by measuring their precision resistance*
- *AC and +DC test detects voltages above 3 volts*
- *Display: Bright Red and Green LEDs indicate the test results*
- *Built in Tone Generator, Warble pitch, approx 9V peak at 800 to 1000Hz*
- *Continuous Battery Test flashes LED in Tone mode*
- *Protected against damage up to 120 volts AC/DC (no fuse required)*
- *Minimum Cable Length: no minimum*
- *Maximum Cable Length: any length whose total DC resistance is less than 200 Ohms (see table for some common examples)*
- *Cables / Wires Tested: Any pair whose total DC resistance is less than 200 Ohms, and is unconnected to other equipment or circuitry*
- *Continuity: Continuity (SHORT) is indicated for resistances of 500 Ohms or less*
- *OPEN Test: OPEN is indicated for resistances of 10,000 Ohms or more*
- *Battery: 9 volt*
- *Battery life: approx 20 hours continuous use (alkaline battery)*
- *Size*

  Main Unit: 2.45"W x 4.5"H (to top of BNC) x 1.25"T (to top of switch)
  Carrying Case: 5" (W) x 7.75" (L) x 2.5" (D)
- *Weight*

  Main Unit (with battery): 4.7 oz.
  Complete Kit: Approx. 1.25 lbs.

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Note: *The* ***WireMaster Mapper*** *will not map coaxial cables if any of the following devices are in use:*

- *Amplifiers*
- *Attenuators*
- *Baluns*
- *DC Blockers*
- *Directional Taps*
- *Electronic Switches*
- *Matching Transformers*
- *Modulators*
- *Power Dividers*
- *Splitters (non power passive)*

Note: *The* ***WireMaster Mapper*** *does not perform complete tests of all conductors in a cable. Its function is to identify (map) a cable, or to put a tracer signal on a cable. For example, it will identify a LAN cable, but it will not determine if the LAN cable is "good".*

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Some Typical Cable/Wire Resistances

Cable Type	Ohms per 1000 Ft.	Max Test Length
RG-6/U Belden 1694A	7.4 Ohms	27,000 ft
RG-6/U Belden 1152A	30 Ohms	6,600 ft
RG-58/U Belden 7806A	11.8 Ohms	17,000 ft
RG-58A/U Belden 9311	26 Ohms	7,700 ft
RG-59/U Belden 8241	51.6 Ohms	3,900 ft
RG-59/U Belden 9659	17.6 Ohms	11,300 ft
Mini Coax Belden 9221	111 Ohms	1,800 ft
Telephone (CAT 3) Belden 1227A1	56 Ohms	3,600 ft
Telephone (CAT 3) Belden 1245A2	19 Ohms	10,500 ft
LAN (CAT 5e) Belden 11700A	18 Ohms	11,100 ft
LAN (CAT 6) Belden 11872A	18 Ohms	11,100 ft
12 ga. Speaker Wire Belden 1860A	3.2 Ohms	58,800 ft
16 ga. Speaker Wire Belden 1862A	8.4 Ohms	23,800 ft

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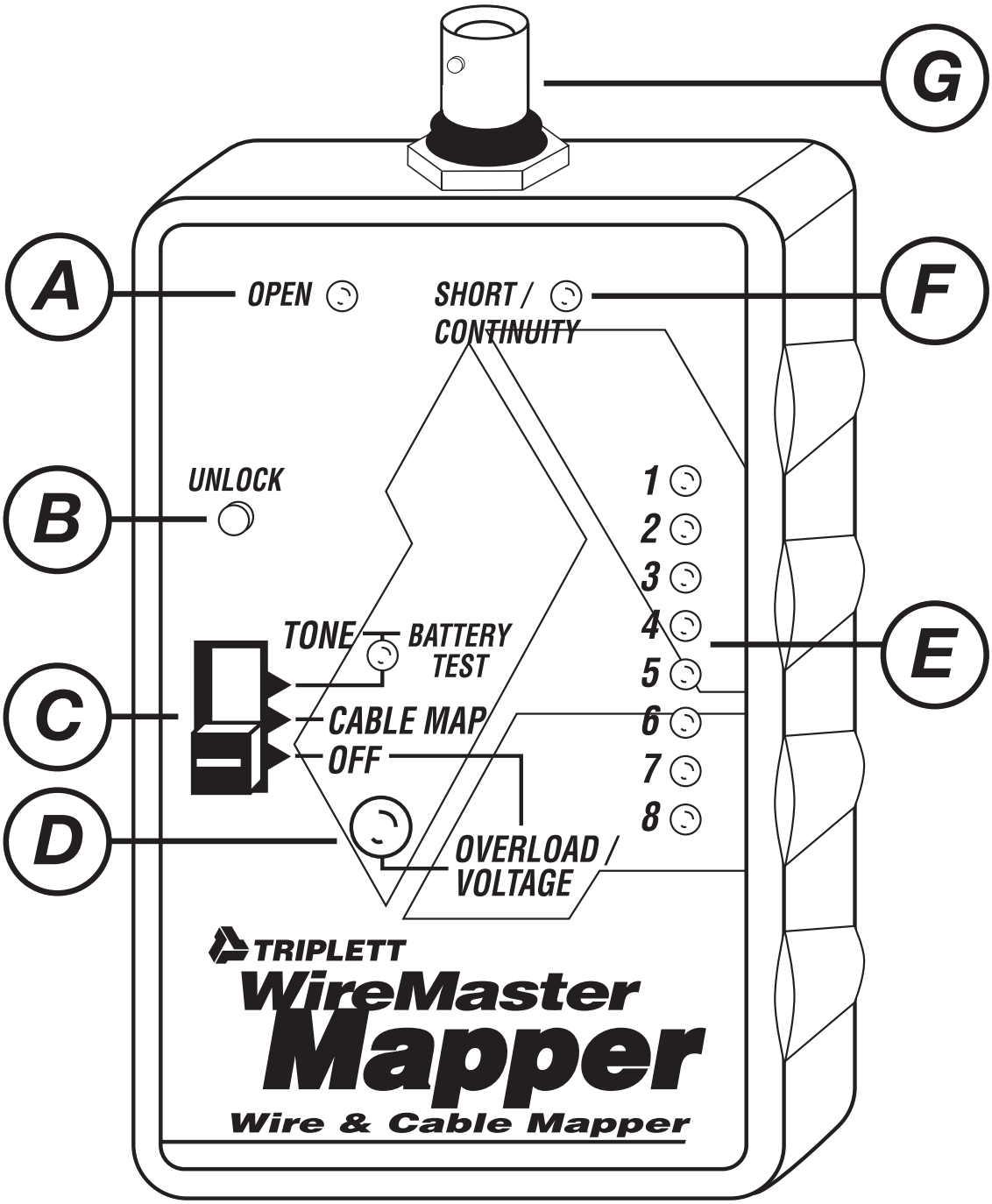
5. CONTROL LOCATIONS



A: Open LED
B: Unlock Button
C: Function Switch
D: Overload / Voltage LED
E: 1 thru 8 ID LED's
F: Short/Continuity LED
G: BNC Connector

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6. GETTING STARTED

Installing / Replacing Battery

To install or replace the 9 volt battery, remove the single screw from the back of the case. Gently remove the front of the case to gain access to the battery compartment. Sometimes it helps to press lightly on the numbered LEDs to remove the front. With the front removed, install/replace battery. Replace front, aligning LEDs in their respective holes, and replace screw.

Power Latch

*The **WireMaster Mapper** Function switch incorporates a Power Latch feature to prevent the product from accidentally being turned on, which could result in a dead battery. Note that the Function switch is locked into the OFF: OVERLOAD / VOLTAGE position. To turn the product on, the UNLOCK button must be pressed, and while the button is pressed, the Function switch is moved to the CABLE MAP position, at which time the UNLOCK button may be released. When the Function switch is returned to the OFF: OVER-LOAD / VOLTAGE position, the switch will lock in this position, requiring the user to once again press the UNLOCK button to turn the product on.*

Battery Test

Press the UNLOCK button and set the Function switch to the TONE / BATTERY TEST position. The green BATTERY TEST LED must

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flash. If the BATTERY TEST LED does not flash, the battery should be replaced. If it is weak, it may produce erroneous results in the CABLE MAP mode.

Verifying Product Operation

After turning the product on, connect the provided BNC to BNC adaptor to the BNC on the ***WireMaster Mapper.*** *Experimentally connect different numbered Remotes to the adaptor, noting that the number on the Remote agrees with the LED that lights on the* ***WireMaster Mapper.*** *In use, thousands of feet of wire may be between the Remote and the* ***WireMaster Mapper****, and the Remote will cause the appropriate LED to light.*

7. DETAILED OPERATION

Identifying Cables (Mapping)

The ***WireMaster Mapper*** *will not work if AC or DC voltage is present. Some coaxial cables have AC or DC voltage on them to operate amplifiers, preamplifiers, LNB's, etc. Telephone wires that are in service will have 5 to 50VDC on them. Power wires may have 120VAC or more on them. Doorbell wires can have 10 to 40VAC on them.*

The OFF: OVERLOAD / VOLTAGE test position of the Function switch tests the connected cable for the presence of AC or DC voltage.

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Note: *The* ***WireMaster Mapper*** *does not test for reversed polarity DC voltages. If reversed polarity DC is present, the* ***WireMaster Mapper*** *will not properly detect a Remote. If you suspect reversed polarity DC voltage is present, use the BNC to Clip Lead adaptor to connect to the suspect wires, reversing the polarity of the connection to check for the presence of DC voltage.*

The ***WireMaster Mapper*** *is intended for use on un-terminated cables, that is, cables without any devices connected to them.*

Before connecting any Remotes to cables, using the appropriate adaptor connect the ***WireMaster Mapper****, with its Function switch set to OFF: OVERLOAD / VOLTAGE, to each of the cables to be mapped. If there is an AC or DC (plus) voltage present, the OVERLOAD / VOLTAGE indicator LED will light and the warning beeper will sound intermittently. If this occurs, the cable(s) cannot be Mapped / Identified (ID'ed) with the* ***WireMaster Mapper****.*

When it has been determined that no AC or DC voltage is present, connect the various Remotes to the cables to be ID'ed

Press the UNLOCK button and set the Function switch to the CABLE MAP position. The OPEN LED must light. If the OPEN LED does not light, there may be a defect in the ***WireMaster Mapper*** *that will prevent it from correctly ID'ing a cable. Check or replace the battery before proceeding.*

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*At the ends of the target cables opposite the Remotes, connect the **WireMaster Mapper**, in succession, to each cable, noting the ID number of the LED that lights.*

*If upon connecting the **WireMaster Mapper** to a cable, the OPEN LED remains lit, the cable may not have a Remote at its opposite end, an open fault may be present in the cable, or a splitter or some other device may be present in the cable. The **WireMaster Mapper** will not work through splitters, amplifiers, or any other DC blocking devices.*

*If the SHORT / CONTINUITY LED lights and the beeper sounds, the cable may be shorted, or some device is connected to the cable that appears as a short to the **WireMaster Mapper.***

If the OVERLOAD / VOLTAGE LED lights and the beeper sounds, at any time, the cable being tested has voltage on it and cannot be ID'ed.

If a number of ID LEDs light simultaneously, a stray voltage may be present that will prevent the cable from being ID'ed.

Most non-faulted cables containing 2 conductors or more can be mapped. Even single conductors can be mapped if a low resistance ground or return path is available.

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*The **WireMaster Mapper** is equipped with the necessary adaptors and Remotes to test cables with BNC, F, and RJ11/RJ45 connectors. It also includes Clip Lead adapters to allow any pair of wires to be tested. Additionally, almost any off-the-shelf BNC adaptor can be used with the **WireMaster Mapper.** They are often available through electronic supply houses or Do It Yourself outlets. Using these adaptors, the BNC connectors on the **WireMaster Mapper** can be adapted to most coaxial connectors (TNC, SMA, RCA Phono, 1/8" and 1/4" phone jack, PL-259, etc.)*

*If a low resistance ground or return path is available at both the Remote location and at the **WireMaster Mapper** location, single wires can be ID'ed. Connect one alligator clip at both locations to the ground. Connect the other clip to the wire(s) to be ID'ed. ID the wires at the **WireMaster Mapper** by connecting the remaining alligator clip to each wire and noting the displayed ID.*

***Note:** If the ground or return path has too much resistance, or has AC or DC current flowing in it, incorrect ID's may be obtained.*

Mapping Cables through a Splitter

*The **WireMaster Mapper** will map individual Remotes through a fully power passive splitter. Most splitters, like those used in CATV (Cable Television) are **not** power passive. Some splitters are not power passive through all of their ports (partially passive). Satellite splitters and high quality splitters are often power passive, but*

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not necessarily through all of the ports.

For distribution systems using fully power passive splitters, the WireMaster Mapper will map individual Remotes the splitters. Only one Remote at a time can be mapped. Connecting more than one Remote at a time to the system will cause an incorrect ID on the ***WireMaster Mapper.*** *Some equipment connected to the outputs of the splitters may cause the* ***WireMaster Mapper*** *to produce an incorrect ID. If in doubt, disconnect the equipment.*

Splitters are bi-directional, meaning that signals pass through them in both directions. Because of this behavior, the Remote can be connected to any port on the splitter, and it can be "seen" on any other port.

A typical test would be to connect the chosen Remote to the input of the system, and test at each outlet with the ***WireMaster Mapper*** *for the presence of the Remote's ID. If the correct ID is displayed, the system's input is connected to the tested outlet. If OPEN or SHORT is displayed, there may be no connection to the Remote, power passive splitters are not being used, or equipment connected to the splitters is interfering with the ID.*

Note: *The* ***WireMaster Mapper*** *will not test through active devices (amplifiers, switches, modulators, etc.) or DC Blocks, Matching Transformers, or any other device that will not pass the DC*

test signal or alters the characteristics of the signal.

Continuity Testing

*The **WireMaster Mapper** can be used as an audible and visual Continuity tester. To use this feature, the Clip Lead adaptor is often used.*

*Connect the Clip Lead adaptor cable to the BNC on the **WireMaster Mapper.** When a circuit with Continuity is connected between the adaptor's clip leads, the product's SHORT / CONTINUITY LED will light and the beeper will sound.*

RJ Connectors / Important Note

*The **WireMaster Mapper** and its Remotes are equipped with 'slotted' RJ connectors. While these may look like standard RJ11 connectors, they are a special type that can be plugged into either RJ11 or RJ45 jacks. If a standard RJ11 connector is plugged into an RJ45 connector, the RJ45 connector may be permanently damaged. The **WireMaster Mapper** comes with RJ11 and RJ45 Female / Female couplers. This allows the slotted RJ connector on the **WireMaster Mapper** to be mated with other standard RJ connectors. For example, the slotted RJ connector can be plugged into one side of the RJ45 coupler (simply align the tab with the center slot and plug in), and the other side of the RJ45 coupler connected to an RJ45 plug on a LAN cable. An RJ Remote can be plugged directly into either an RJ11 or RJ45 jack.*

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*The **WireMaster Mapper** performs its ID test using only the center two conductors of the RJ connector. The OPEN and SHORT / CONTINUITY tests are only performed on these conductors. Other wires in the cable may have OPENs or SHORTs, and the **WireMaster Mapper** will not detect them.*

Intermittent Connections

*The **WireMaster Mapper** performs tests in real-time. That is, it is continuously testing the target cable for the presence of a Remote (some products only perform a momentary test). When a cable is suspected of having an intermittent connection, a Remote can be connected to one end of the cable, and the **WireMaster Mapper** connected to the opposite end of the cable. The appropriate numbered ID LED should light on the **WireMaster Mapper.** Flex the cable at its connectors and along its length (may require 2 people) while observing the ID LED on the **WireMaster Mapper.** If an intermittent connection is found, the ID LED will flicker or change value (like to SHORT or OPEN).*

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Generating a Wire Tracing Signal

*The **WireMaster Mapper** can be used to generate a Wire Tracing signal. This signal is compatible with the Triplett Hound, Hound 2 and Hound 3. To trace a wire using this feature, connect the **WireMaster Mapper** to the cable or pair of wires using one of the provided adaptors, and then trace the wire using a Triplett Hound. Use the instructions that came with the Hound to complete the trace.*

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8. Included Items

The following items are included with the ***WireMaster Mapper***

Description	Part Number
BNC Remote 1	3274-1
BNC Remote 2	3274-2
BNC Remote 3	3274-3
BNC Remote 4	3274-4
BNC Remote 5	3274-5
BNC Remote 6	3274-6
BNC Remote 7	3274-7
BNC Remote 8	3274-8
Male BNC to Male BNC Adaptor	13838
F Remote 1	RMT-F/F-1
F Remote 2	RMT-F/F-2
F Remote 3	RMT-F/F-3
F Remote 4	RMT-F/F-4
F Remote 5	RMT-F/F-5
F Remote 6	RMT-F/F-6
F Remote 7	RMT-F/F-7
F Remote 8	RMT-F/F-8
Male BNC to Female F Adaptor.	BNC/M-F/F
Male F to Male F Adaptor	F/M-F/M

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Description	Part Number
RJ11 / RJ45 Remote 1	RMT-RJ/M-1
RJ11 / RJ45 Remote 2	RMT-RJ/M-2
RJ11 / RJ45 Remote 3	RMT-RJ/M-3
RJ11 / RJ45 Remote 4	RMT-RJ/M-4
RJ11 / RJ45 Remote 5	RMT-RJ/M-5
RJ11 / RJ45 Remote 6	RMT-RJ/M-6
RJ11 / RJ45 Remote 7	RMT-RJ/M-7
RJ11 / RJ45 Remote 8	RMT-RJ/M-8
Male BNC to Male RJ11 / RJ45 Adaptor	BNC/M-RJ/M
Female / Female RJ11 Coupler	RJ11/F-RJ11/F
Female / Female RJ45 Coupler	2455-781
Clip Lead Remote 1	RMT-CLIP-1
Clip Lead Remote 2	RMT-CLIP-2
Clip Lead Remote 3	RMT-CLIP-3
Clip Lead Remote 4	RMT-CLIP-4
Clip Lead Remote 5	RMT-CLIP-5
Clip Lead Remote 6	RMT-CLIP-6
Clip Lead Remote 7	RMT-CLIP-7
Clip Lead Remote 8	RMT-CLIP-8
Male BNC to Clip Lead Adaptor	79-792
Carrying Case	10-4295
Instruction Manual	84-876

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Also Available

BNC Remotes 1-8 3274-9
F Remotes 1-8 ..... RMT-F/F-9
RJ11 / RJ45 Remotes 1-8 ..... RMT-RJ/M-9
Clip Lead Remotes 1-8 ..... RMT-CLIP-9

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Maintenance

No regular maintenance of the ***WireMaster Mapper*** *is required. In the event the product is defective or is damaged, please contact Triplett for repair information.*

TRIPLETT PRODUCT RETURN INSTRUCTIONS

In the unlikely event that you must return your Triplett equipment for repair, the following steps must be taken.

1) ***Call 1-800-TRIPLETT to obtain a Return Material Authorization (RMA) number from Customer Service.***

2) ***Enclose a copy of the original sales receipt showing date of purchase.***

3) ***Clearly print the RMA number on the outside of the shipping container.***

4) ***Return to:*** ***Triplett / Jewell Instruments***
850 Perimeter Road
Manchester, NH 03103
ATTN: Repair Dept.

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Triplett One Year Limited Warranty

Triplett / Jewell Instruments warrants instruments and test equipment manufactured by it to be free from defective material or workmanship and agrees to repair or replace such products which, under normal use and service, disclose the defect to be the fault of our manufacturing, with no charge within one year of the date of original purchase for parts and labor. If we are unable to repair or replace the product, we will make a refund of the purchase price. Consult the Instruction Manual for instructions regarding the proper use and servicing of instruments and test equipment. Our obligation under this warranty is limited to repairing, replacing, or making refund on any instrument or test equipment which proves to be defective within one year from the date of original purchase.

This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons in any way so as, in our sole judgment, to injure their stability or reliability, or which have been subject to misuse, abuse, misapplication, negligence, accident or which have had the serial numbers altered, defaced, or removed. Accessories, including batteries and fuses, not of our manufacture used with this product are not covered by this warranty.

To register a claim under the provisions of this warranty, contact Triplett / Jewell Instruments' Customer Service Department for a Return Authorization Number (RMA) and return instructions. No returned product will be accepted without an RMA number. Upon our inspection of the product, we will advise you as to the disposition of your claim.

ALL WARRANTIES IMPLIED BY LAW ARE HEREBY LIMITED TO A PERIOD OF ONE YEAR FROM DATE OF PURCHASE, AND THE PROVISIONS OF THE WARRANTY ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES EXPRESSED OR IMPLIED.

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The purchaser agrees to assume all liability for any damages and bodily injury which may result from the use or misuse of the product by the purchaser, his employees, or others, and the remedies provided for in this warranty are expressly in lieu of any other liability Triplett / Jewell Instruments may have, including incidental or consequential damages.

Some states (USA ONLY) do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. No representative of Triplett / Jewell Instruments or any other person is authorized to extend the liability of Triplett / Jewell Instruments in connection with the sale of its products beyond the terms hereof.

Triplett / Jewell Instruments reserves the right to discontinue models at any time, or change specifications, price or design, without notice and without incurring any obligation.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

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